

Title (en)

LUBRICATING OIL COMPOSITION PROVIDING WEAR PROTECTION AT LOW VISCOSITY

Title (de)

SCHMIERÖLZUSAMMENSETZUNG MIT BEREITSTELLUNG VON VERSCHLEISSCHUTZ BEI NIEDRIGER VISKOSITÄT

Title (fr)

COMPOSITION D'HUILE LUBRIFIANTE ASSURANT UNE PROTECTION CONTRE L'USURE À FAIBLE VISCOSITÉ

Publication

**EP 3759200 B1 20240403 (EN)**

Application

**EP 19713853 A 20190228**

Priority

- US 201862637471 P 20180302
- IB 2019051607 W 20190228

Abstract (en)

[origin: US2019270947A1] Provided is a lubricating oil composition comprising: (a) a major amount of an oil of lubricating viscosity, (b) a dispersant polymethacrylate (DPMA) VII; (c) a non-dispersant ethylene-based olefin copolymer viscosity index improver; (d) a molybdenum containing compound; and (e) a minor amount of a salicylate detergent. Also provided is a method of improving friction and reducing wear in an internal combustion engine using said lubricating oil composition

IPC 8 full level

**C10M 169/04** (2006.01); **C10N 10/12** (2006.01); **C10N 20/04** (2006.01); **C10N 30/02** (2006.01); **C10N 30/06** (2006.01); **C10N 40/25** (2006.01); **C10N 60/00** (2006.01); **C10N 60/14** (2006.01)

CPC (source: EP US)

**C10M 129/54** (2013.01 - US); **C10M 143/04** (2013.01 - US); **C10M 145/14** (2013.01 - US); **C10M 157/00** (2013.01 - US); **C10M 167/00** (2013.01 - US); **C10M 169/04** (2013.01 - EP US); **C10M 169/048** (2013.01 - US); **C10M 2203/003** (2013.01 - US); **C10M 2203/1025** (2013.01 - EP US); **C10M 2205/022** (2013.01 - EP US); **C10M 2205/024** (2013.01 - EP US); **C10M 2205/0285** (2013.01 - EP US); **C10M 2207/026** (2013.01 - EP US); **C10M 2207/262** (2013.01 - EP US); **C10M 2209/084** (2013.01 - US); **C10M 2215/064** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2217/028** (2013.01 - EP US); **C10M 2223/045** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2020/019** (2020.05 - EP US); **C10N 2020/04** (2013.01 - EP US); **C10N 2020/079** (2020.05 - EP US); **C10N 2030/02** (2013.01 - EP US); **C10N 2030/04** (2013.01 - US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/43** (2020.05 - US); **C10N 2040/25** (2013.01 - EP US); **C10N 2040/255** (2020.05 - EP US); **C10N 2060/00** (2013.01 - EP US); **C10N 2060/14** (2013.01 - EP US)

C-Set (source: EP US)

EP

1. **C10M 2205/022 + C10M 2205/024 + C10N 2020/04**
2. **C10M 2217/028 + C10N 2020/04**
3. **C10M 2203/1025 + C10N 2020/02**
4. **C10M 2215/28 + C10N 2060/00**
5. **C10M 2215/28 + C10N 2060/14**
6. **C10M 2215/28 + C10N 2060/00 + C10N 2060/14**

US

1. **C10M 2205/022 + C10M 2205/024 + C10N 2020/04**
2. **C10M 2217/028 + C10N 2020/04**
3. **C10M 2215/28 + C10N 2060/00**
4. **C10M 2215/28 + C10N 2060/14**
5. **C10M 2203/1025 + C10N 2020/02**
6. **C10M 2215/28 + C10N 2060/00 + C10N 2060/14**

Citation (examination)

US 2014378355 A1 20141225 - MATSUI SHIGEKI [JP], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**US 2019270947 A1 20190905**; CA 3092328 A1 20190906; CN 111819269 A 20201023; EP 3759200 A1 20210106; EP 3759200 B1 20240403; JP 2021515070 A 20210617; JP 2024015128 A 20240201; SG 11202008166Y A 20200929; WO 2019166977 A1 20190906

DOCDB simple family (application)

**US 201916288367 A 20190228**; CA 3092328 A 20190228; CN 201980016435 A 20190228; EP 19713853 A 20190228; IB 2019051607 W 20190228; JP 2020544749 A 20190228; JP 2023203623 A 20231201; SG 11202008166Y A 20190228